

10/15/01

Case 1765

The Assistant Commissioner of Patents
United States Patent and Trademark Office
Washington, D.C. 20231
ATTN: Box: Patent Applications

RECEIVED

OCT 17 2001

TC 1700

Re: U.S. Utility Patent Application
Appl. No. 09/247,413; Filed 02/10/1999
For: **METHOD FOR DESIGN OF EPITAXIAL LAYER AND SUBSTRATE
STRUCTURES FOR HIGH-QUALITY EPITAXIAL GROWTH ON
LATTICE-MISMATCHED SUBSTRATES**
Inventor(s): **LO, et al.**
Docket No.: **NOVA-P033**

Sir:

The following documents are forwarded herewith for action by the U.S. Patent and Trademark Office:

1. Office Action Transmittal Letter – Form 1082 (in Duplicate);
2. Office Action response/amendment 12 pages; and,
3. Return postcard

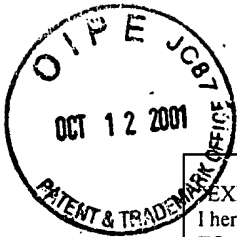
It is respectfully requested that the attached postcard be stamped with the receipt date of the above documents and returned to the addressee as soon as possible.

10/12/2001
Date

Respectfully submitted,

DENNIS S. FERNANDEZ, ESQ.
Reg. No. 34,160

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Certificate of Mailing By "U.S. Express Mail" Under 37 C.F.R. 1.10(c)
EXPRESS MAIL" Mailing Label Number: EL766119923US Date of Deposit: 10/12/2001
I hereby certify that this paper and/or fee is being deposited with the United States Postal Service "EXPRESS MAIL POST OFFICE
TO ADDRESSEE" service under 37 C.F.R. 1.10 on the date indicated above and is addressed to the Assistant Commissioner For
Patents, Washington, DC 20231.
Name: Maritza Kidd
10/12/2001
Signature Date
Maritza Kidd
Signature

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of: LO, *et al*
Serial No.: 09/247,413
Filed: 02/10/1999

Attorney Docket No. NOVA-P033
Examiner: Anderson, M.
Art Unit: 1765

For: METHOD FOR DESIGN OF EPITAXIAL LAYER AND SUBSTRATE STRUCTURES FOR
HIGH-QUALITY EPITAXIAL GROWTH ON LATTICE-MISMATCHED SUBSTRATES

Commissioner of Patents
Washington, D.C. 20231

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AMENDMENT TRANSMITTAL LETTER

Dear Sir:

1. **TRANSMITTED DOCUMENTS:** the following documents relating to the above-identified patent application are being transmitted herewith.

- ☒ a. An Amendment for this application: 12 pages.
☐ b. Corrected Formal Drawings: sheets.
☐ c. A Petition For Extension of Time For Response under 37 CFR 1.136(a) incorporated herein.
☐ d. An Information Disclosure Statement under 37 CFR 1.97(b) 1.97(c)
☒ e. A stamped, self-addressed, return postcard.
☐ f. A Check (#) for \$ to cover required fees of this correspondence.

2. **APPLICANT FILING STATUS:**

- ☐ a. Applicant is a Large Entity.
☒ b. Applicant is a Small Entity.

3. **EXTENSION OF TIME:**

- ☐ a. Applicant petitions for an extension of time under 37 C.F. R. 1.136 for the total number of months checked below (fees pursuant to 37 C.F.R. 1.17(a)-(d).

Extension of Time

Large Entity Fee

Small Entity Fee

- | | | |
|------------------------|-------------------------|--|
| i. One (1) month . | <u> </u> \$ 110.00 | <input checked="" type="checkbox"/> \$ 55.00 |
| ii. Two (2) month . | <u> </u> \$ 390.00 | <u> </u> \$ 195.00 |
| iii. Three (3) month . | <u> </u> \$ 890.00 | <u> </u> \$ 445.00 |
| iv. Four (4) month . | <u> </u> \$ 1,390.00 | <u> </u> \$ 695.00 |
| v. Five (5) month . | <u> </u> \$ 1,890.00 | <u> </u> \$ 945.00 |

Extension Time Fee Total: .00

- ☒ b. Applicant believes that no extension of time is required. However, this conditional petition is being made in case Applicant has inadvertently overlooked the need for a petition for extension of time.

4. FEE CALCULATION:

The fee for claims (37 C.F.R. 1.16(b)-(d)) has been calculated as shown below:

Fee Items	Claims Remaining After Amendment	Highest Number of Claims Previously Paid	Present Extra Claims	Fee Rate	Total
a. Total new Claims	12	- 20 =	0	x \$ 18.00 Large Entity x \$ 9.00 Small Entity	\$
b. Independent Claims	2	- 3 =	0	x \$ 78.00 Large Entity x \$ 39.00 Small Entity	\$
c. Multiple Dependent Claims Added By This Amendment				x 260.00 Large Entity x 130.00 Small Entity	
d. Extension of Time Fee Total, if any, from above EXTENSION OF TIME section 3a.					\$.00
e. Additional Fees Required With This Correspondence					
i) 1.17 (p) Fee for Information Disclosure under 1.97(c)					\$.00
e. Total Fees					\$.00

5. PAYMENT OF FEES

The full fee due in connection with this communication is provided as follows:

_____ The Commissioner is hereby authorized to charge the fees associated with this communication or credit any overpayment to **Deposit Account No: 500482**. A duplicate copy of this authorization is enclosed.

_____ A Check # _____ for \$ _____ for the above specified Total Fee is enclosed. However, should Applicant inadvertently miscalculated the required fee, the Commissioner is hereby authorized to charge the necessary additional amount associated with this communication or credit any overpayment to **Deposit Account No: 500482**.


X Applicant does not believe that any payment of fee is needed in association with this communication. However, should Applicant inadvertently miscalculated the required fee, the Commissioner is hereby authorized to charge any necessary amount associated with **claims** or this communication or credit any overpayment to **Deposit Account No: 500482**.

Please direct all correspondence concerning the above-identified application to the following address:

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Respectfully submitted,



DENNIS S. FERNANDEZ, ESQ.
Registration No. 34,160

10/12/2001
Date



IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Inventors: Lo, et al

Attorney Docket No.: NOVA-P033

Serial No.: 09/247,413

Group Art Unit: 1765

Filed: 5/25/2001

Examiner: Anderson, M

- 5 Title: METHOD FOR DESIGN OF EPITAXIAL LAYER AND SUBSTRATE STRUCTURES FOR HIGH-QUALITY EPITAXIAL GROWTH ON LATTICE-MISMATCHED SUBSTRATES

AMENDMENT UNDER 37 CFR §1.111

- 10 The Commissioner of Patents and Trademarks
Washington, D.C. 20231

Sir:

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In the Claims:

Please cancel claims 2-11, 18, 19, 21.

Kindly add new claims 22-33:

-
22. (New) A method for forming low defect density epitaxial layers on lattice-
20 mismatched substrates, comprising:
- C1 a) selecting an epilayer having an epilayer lattice constant and an epilayer thermal expansion coefficient;
- b) forming a composite substrate having a greater composite thermal expansion coefficient than the epilayer thermal expansion coefficient if a composite
25 lattice constant of the substrate is smaller than the epilayer lattice constant, or forming a composite substrate having a smaller composite thermal expansion coefficient than the epilayer thermal expansion coefficient if the composite lattice constant is greater than the epilayer lattice constant,